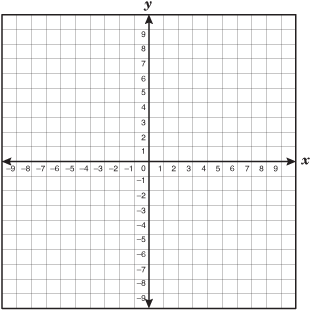
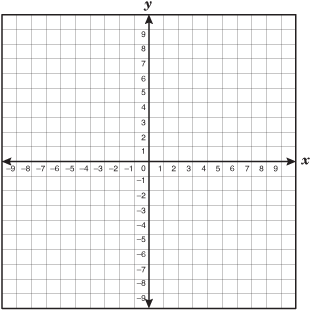
**Unit 2 Practice Test**

Knowledge and Understanding

1. Determine the coordinates of the midpoint of the line segment defined by each pair of endpoints. (4 marks)
   1. L (-1, 0) and M (1, -6) b. E (-3, -3) and F (-1, -7)
2. Calculate the length of the line segment defined by each pair of endpoints. (4 marks)
   1. A (-6, 2) and B (4, 3) b. G (0, 5) and H (8, -1)
3. Determine an equation for each circle. Show all work. (6 marks)  
     
   

Application

1. A triangle has vertices D (-2, 7), E (-4, 2) and F (6, -2). (7 marks)
   1. Draw Triangle DEF
   2. Show algebraically that this triangle is a right triangle
   3. Find the Midpoint of the hypotenuse
2. In a remote Northern community an ambulance picks up a patient at point P (96, 197). The nearest hospitals that can provide care are in Thunder Bay T (200, 296) and Winnipeg (232, 80). (6 marks)  
   1. Which hospital should the ambulance take the patient?
   2. List any assumptions for your answer.

Communication

1. Describe how you can find the length of the line segment joining the points A (0, 1) and B (4,3). (4 marks)
2. Describe how you would determine whether the point (3, 5) lies on the circle defined by x2 + y2 = 35. (4 marks)

Thinking and Inquiry

1. Determine the equation for the right bisector of the line segment with endpoints

P (-5, -2) and Q (3, 6)

1. A communication tower can send and receive signals from cell phones up to 20 km away. A cell phone user is 15 km east and 13 km south of the tower. Is this user able to receive a signal from the tower?